## U.S. Non-Provisional Application In re. Jonathan S. Till Filed August 16, 2001 Attorney Docket No. 10551-211

## What is claimed is:

1	1.	A method for reversing presbyopia comprising
2		applying localized energy to the area to be
3		treated and administering a pharmaceutically
4		sufficient quantity of a biologically
5		acceptable chemical substance capable of
6		breaking the chemical bonds between disulfates
7		of the cortical lens fibers.

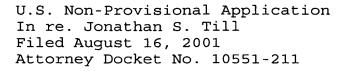
- The method of claim 1, wherein said localized
   energy comprises treatment with at least one
   or more of heat, energy, sound or enzyme.
- The method of claim 1, wherein said
   biologically acceptable chemical comprises
   glutathione, thiols and derivatives thereof.
- 4. A method for increasing the amplitude of
  accommodation of a human eye having a lens and
  a ciliary must be comprising the step of
  administering a pharmaceutically sufficient
  quantity of a biologically acceptable reducing

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- agent to affect a change in the elasticity of
- 2 the human lens.
- 5. The method of claim 4, wherein the biologically acceptable reducing agent is selected from the group consisting of glutathione, thiols and derivatives thereof.
  - 6. The method of claim 4, further comprising the step of treating the human eye with external energy.
- 7. The method of claim 1, wherein reformation of
   disulfide bonds is prevented.
- 8. A method for treating presbyopia comprising
  breaking disulfide bonds formed about the lens
  fibers to form sulfides and reducing them with
  either hydrogen or other agents.



- 9. The method of claim 8, further comprising catalyzing the reaction by applying energy.
- 10. The method of claim 8, wherein said disulfide
  bond breaking is catalyzed by agents selected
  from the group consisting of aldoreductase,
  glyoxylase, glutathione S-transferase, thiol
  reductase, tyrosine reductase or any
  biologically suitable compatible reductase.
- 1 11. A method for treating presbyopia comprising
  2 breaking disulfide bonds and reforming the
  3 sulfide bonds with -CH3 or any other suitable
  4 molecule.
- 1 12. The method of claim 11, wherein said breaking
  2 disulfide bonds further comprises the applying
  3 external energy.
- 1 13. The method of claim 11, wherein said breaking disulfide bonds further comprises applying

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- enzyme capable of breaking the disulfide
- 2 bonds.
- 1 14. The method of claim 13, wherein said enzyme 2 comprises S-methyl glutatione, S-Transferase.
- 1 15. The method of claim 11, wherein said breaking
  2 disulfide bonds further comprises applying a
  3 chemical catalyst capable of promoting a
  4 catalytic reaction.
- 1 16. The method of claim 15, wherein said chemical
  2 catalyst comprises methyl-methane
  3 thiosulfonate and methyl glutatione.
- 1 17. A method for treating presbyopia comprising
  2 breaking interlenticular fiber adhesions and
  3 freeing the fibers to move relative to each
  4 other.

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- 1 18. The method of claim 17, wherein said breaking
  2 interlenticular fiber adhesions further
  3 comprises applying external energy.
- 1 19. The method of claim 17, wherein said breaking
  2 interlenticular fiber adhesions further
  3 comprise applying enzyme capable of breaking

said interlepticular fiber adhesions.

- 20. The method of claim 17, wherein said breaking interlenticular fiber adhesions further comprise applying a chemical catalyst capable of promoting a catalytic reaction.
- 21. A method for reversing presbyopia comprising
  applying localized energy to the area to be
  treated and administering a pharmaceutically
  sufficient quantity of a biologically
  acceptable chemical substance capable of
  breaking the chemical bonds between disulfates
  of the cortical lens fibers.

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1	22.	An agent that prevents or reduces the
2		likelihood of reformation of disulfide bonds.

- 1 23. A pharmaceutical composition for treatment of 2 presbyopia comprising thiol transferase, 3 glutatione, nicotineamid adenine dinucleotide 4 phosphate.
  - 24. The pharmaceutical composition of claim 23, further comprising a biocompatible carrier.
- 1 25. The pharmaceutical composition of claim 23 2 encased in a viral phage.
- 1 26. The pharmaceutical composition of claim 24, 2 wherein the composition is administered

topically.

1 27. The pharmaceutical composition of claim 23 administered systematically.

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1	28.	The	composi	ition	of	claim	23,	further
2		COM	risina	a pho	nt o	react i	ve	compound

- 1 29. The composition of claim 28, wherein the
  2 composition is activated by introduction of
  3 external energy.
  - 30. The composition of claim 23, wherein the thiol transferase is present in an amount of 0-20% by volume.
- 1 31. The composition of claim 23, wherein the
  2 glutatione is present in an amount of 0-20% by
  3 volume.
- 1 32. The composition of claim 23, wherein
  2 nicotineamid adenine dinucleotide phosphate is
  3 present in an amount of 0-20% by volume.
- 1 33. The composition of claim 23, wherein the glutatione is S-glutathione.